What is claimed is:

1. A portable wireless apparatus provided with a first reference electric potential and a second reference electric potential for transmitting at least one signal, comprising:

a housing;

a frame disposed on the housing; and

an antenna device provided with central frequency and return loss and electronically connected to the frame, wherein the antenna device comprises a first portion, a second portion connected to the first portion for adjusting the central frequency, a third portion connected to the first portion, a fourth portion connected to the first portion and the frame and the second reference electric potential, and a fifth portion connected to the third portion and the first reference electric potential to provide an adjustable distance between the fifth portion and the fourth portion and adjusting return loss.

2. The portable wireless apparatus as claimed in claim 1, wherein the antenna device is an inverse F-type antenna device.

3. The portable wireless apparatus as claimed in claim 2, wherein the antenna device is a cantilever element protruding from the frame.

4. The portable wireless apparatus as claimed in claim 1 further comprising a plate disposed on the frame and electrically connected to the antenna device.

5. The portable wireless apparatus as claimed in claim 4, wherein the third portion is connected to the plate and the second reference electric potential.

6. The portable wireless apparatus as claimed in claim 1 further comprising a cable provided with a first conductive portion connected to the fourth portion for connecting the antenna device to the second reference electric potential and a second conductive portion electrically isolated from the first conductive portion and connected to the fifth portion for connecting the antenna device to the first reference electric potential.

7. The portable wireless apparatus as claimed in claim 1 further comprising an adjustable device connected to the antenna device, wherein the signal is transmitted between the adjustable device and the antenna device.

8. The portable wireless apparatus as claimed in claim 7, wherein the adjustable device has a modulator and a demodulator connected to the antenna device.

9. The portable wireless apparatus as claimed in claim 1, wherein the antenna device and the frame are made of conductive material.

10. The portable wireless apparatus as claimed in claim 1 further comprising a display unit disposed on the housing through the frame.

11. A portable wireless apparatus provided with a first reference electric potential and a second reference electric potential for transmitting at least one signal, comprising:

a housing;

a frame disposed on the housing; and

a display unit disposed on the housing through the frame;

an antenna device for transmitting the signal and electrically connected to the frame, provided with a frequency-adjustable portion for adjusting the central frequency and a signal-transmission portion which transmits the signal and is connected to the first reference electric potential, and an antenna-grounded portion connected to the frame and the first reference electric potential to provide an adjustable distance between the signal-transmission portion and the antenna-grounded portion for adjusting return loss.

12. The portable wireless apparatus as claimed in claim 11, wherein the antenna device is an inverse F-type antenna device.

13. The portable wireless apparatus as claimed in claim 12, wherein the antenna device is a cantilever element protruding from the frame.

14. The portable wireless apparatus as claimed in claim 11 further comprising a plate disposed on the frame and electrically connected to the antenna device.

15. The portable wireless apparatus as claimed in claim 14, wherein the antenna-grounded portion is connected to the plate and the second reference electric potential.

16. The portable wireless apparatus as claimed in claim 11 further comprising a cable provided with a first conductive portion connected to the antenna-grounded portion for connecting the antenna device to the second reference electric potential and a second conductive portion electrically isolated from the first conductive portion and connected to the signal-transmission portion for connecting the antenna device to the first reference electric potential.

17. The portable wireless apparatus as claimed in claim 11 further comprising an adjustable device connected to the antenna device, wherein the signal is transmitted between the adjustable device and the antenna device.

18. The portable wireless apparatus as claimed in claim 17, wherein the adjustable device has a modulator and a demodulator connected to the antenna device.

19. The portable wireless apparatus as claimed in claim 11, wherein the antenna device and the frame are made of conductive material.

20. The portable wireless apparatus as claimed in claim 11, wherein the display unit is a liquid crystal display.